We know what we can do to reduce soil erosion and sediment export from fields

Reduction of soil erosion

- No till farming with high cover percentage
  Direct till / strip till
  Crop ban / land use change
- Grassed waterway
- No till farming with low cover percentage
  Micro ridges in furrows
- Grass buffer strips
  Cover crops
  Contour culitvation
  Storage areas

Reduction of sediment export

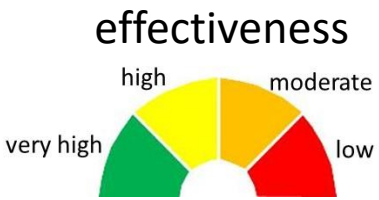
- No till farming with high cover percentage
  Direct till / strip till
  Crop ban / land use change
- Grassed waterway
  Grass bufferstrip (straight slope)
  Storage areas (retention structures)
- No till farming with low cover percentage
  Micro ridges in furrows
  Cover crops
- Grass buffer strips
  (slopes with hollows)
  Contour culitvation
  Storage areas

Likely uptake of the measures

- Cover crops
- Grass buffer strips
  No till farming with high cover percentage
  No till farming with low cover percentage
  Micro ridges in furrows
- Grassed waterway
  No till farming with high cover percentage
  Contour cultivation
  Storage areas/retention structures
- Crop ban
  Direct till / strip till
  Land use change

Balancing **soil management** and **landscape management** measures

- No till farming with high cover percentage
  Retention structures
  Storage zones
- Grassed waterway
  Grass buffer strips (straight slopes)
  No till farming with low cover percentage
- Micro ridges in furrows
  Cover crops
  Grass buffer strips
  (slopes with hollows)
- Contour culitvation
  Crop ban
  Land use change
  Direct till / strip till



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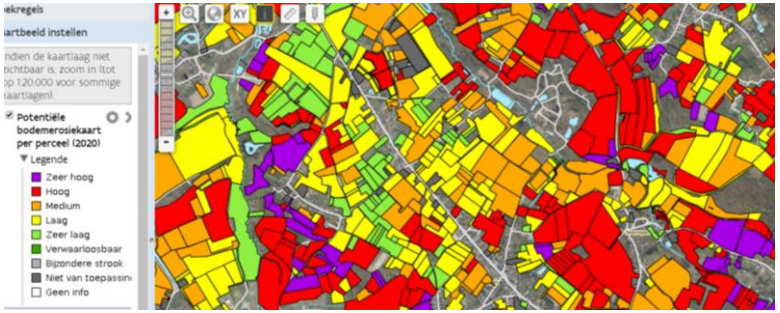
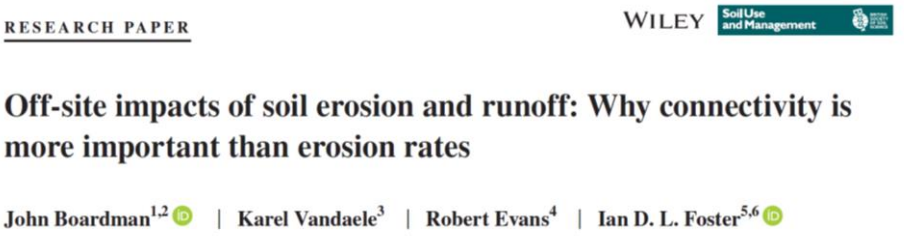
How do we get this done ?

Installation of measures is not a 'quick fix' :

- Target efforts (e.g. soils at risk, rivers at risk, built-up areas at risk,…..)




RESEARCH PAPER

WILEY Soil Use and Management

Off-site impacts of soil erosion and runoff: Why connectivity is more important than erosion rates

John Boardman[1,2] | Karel Vandaele[3] | Robert Evans[4] | Ian D. L. Foster[5,6]

- Mixture of demonstration, voluntary and mandatory schemes is needed
- Provide incentives (technical and/or financial support,….)
- There is no miracle solution, we cannot rely on one measure. A mixture of 'on-site' and off-site' measures is essential
- Control & enforcement is crucial

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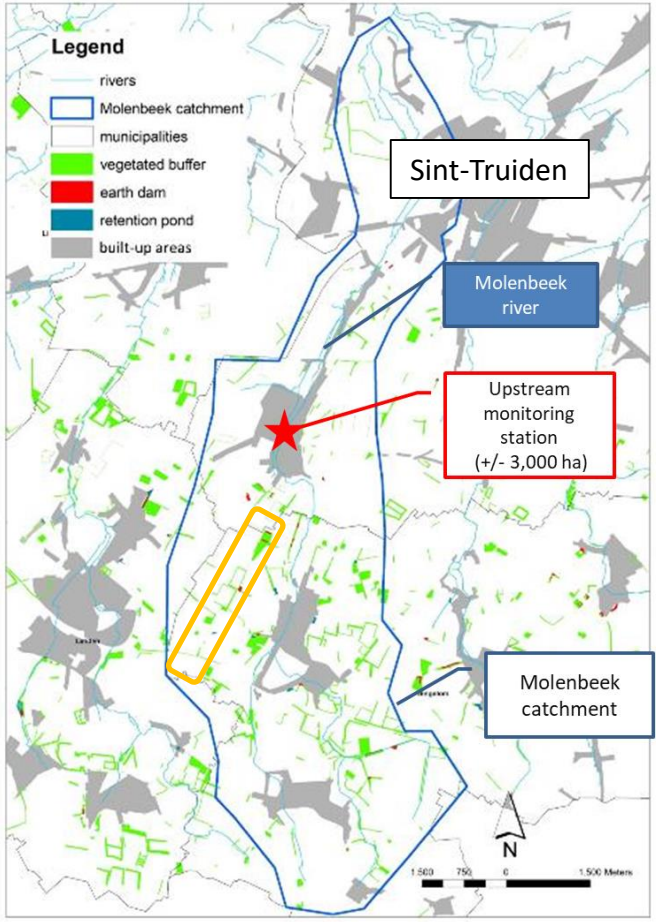
Example : Molenbeek catchment



Detailed monitoring in 300 ha catchment : impact on soil erosion

- Decrease of sediment discharge (– 93 %)
- No more concentrated erosion

- Erosion = interrill phenomenon

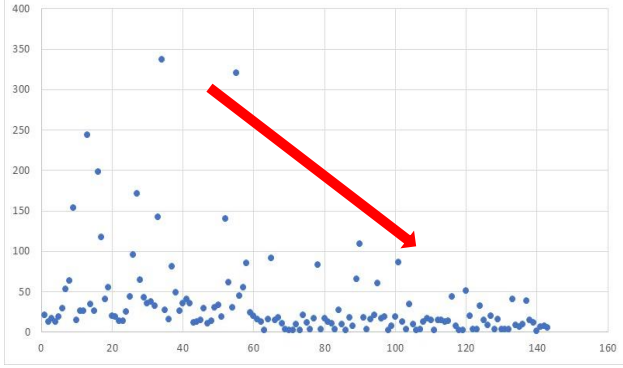
2002

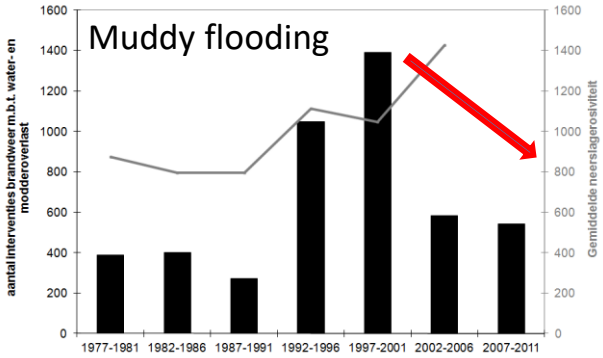
8.2 T.ha⁻¹.yr⁻¹

Since 2006

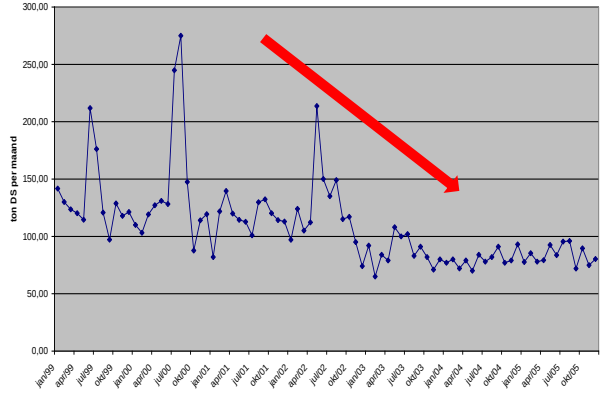
0.5 T.ha⁻¹.yr⁻¹

Sediment concentration in Molenbeek





Sediment in sewage system



Mean annual cost of damage without control measures

Mean annual cost of damage with control measures

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Integrated approach can make a difference and is cost effective